

U.S.S.N. 09/406,353

Page 2 of 2

IN THE CLAIMS

1. ~~(withdrawn)~~ ^{cancelled} In an information distribution system comprising provider equipment and subscriber equipment, said provider equipment providing information to said subscriber equipment via a forward channel, said subscriber equipment requesting said information via a back channel, a method comprising the steps of:
 - determining whether said information distribution system has sufficient bandwidth available to provide information requested by a subscriber;
 - providing, in the event of appropriate bandwidth availability, said requested information to said subscriber using said appropriate bandwidth; and
 - providing, in the event of minimum bandwidth availability, said requested information to said subscriber using said minimum bandwidth.
2. ~~(withdrawn)~~ ^{cancelled} The method of claim 1, further comprising the step of:
 - waiting, in the event of less than minimum bandwidth availability, for a predetermined period of time; and
 - repeating said first and second steps of providing said requested information.
3. ~~(withdrawn)~~ ^{cancelled} The method of claim 2, further comprising the step of:
 - repeating, for a predetermined number of iterations, said step of waiting and said first and second steps of providing said requested information.
4. ~~(withdrawn)~~ The method of claim 3, further comprising the step of denying access to said information to said requesting subscriber.
5. ~~(withdrawn)~~ The method of claim 1, wherein said bandwidth determination is made with respect to at least one of a video server bandwidth, a video switch bandwidth a transport processor bandwidth and a digital video modulator bandwidth.

U.S.S.N. 09/406,353
Page 3 of 3

6. (withdrawn) The method of claim 1, wherein a first level of bandwidth is allocated to each subscriber upon establishing a session, said first level of bandwidth being sufficient to support a navigation function.

7. (withdrawn) The method of claim 1, wherein said requested information is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level.

8. (withdrawn) In an information distribution system comprising provider equipment and subscriber equipment, said provider equipment providing information to said subscriber equipment via a forward channel, said subscriber equipment requesting said information via a back channel, provider equipment apparatus comprising:

a session manager, for receiving information requests from said subscriber equipment and determining, for each received information request, whether said information distribution system has sufficient bandwidth available to provide the requested information; and

an information server, coupled to said session manager, for providing said requested information at an appropriate bandwidth in the case of appropriate bandwidth availability, and for providing said requested information at a minimal bandwidth in the case of at least minimal bandwidth availability.

9. (withdrawn) The apparatus of claim 8, wherein:

said session manager, in response to a determination that less than a minimum bandwidth is available, waiting for a predetermined period of time and determining, for each received information request not being fulfilled, whether said information distribution system has sufficient bandwidth available to provide the requested information.

10. (withdrawn) The apparatus of claim 9, wherein:

U.S.S.N. 09/406,353
Page 4 of 4

said session manager, in response to a final determination that less than a minimum bandwidth is available, denying access to said information to said requesting subscriber.

11. (withdrawn) The apparatus of claim 8, further comprising:

a transport processor, for packetizing information provided by said information server;

said session manager determining said information distribution system bandwidth with respect to at least a bandwidth utilization level of said transport processor.

12. (withdrawn) The apparatus of claim 8, further comprising:

a plurality of data storage devices, coupled to said information server via a video switch;

said session manager determining said information distribution system bandwidth with respect to at least one a bandwidth utilization level of said video switch and a bandwidth utilization level of a storage devices including said requested information.

13. (withdrawn) The apparatus of claim 8, further comprising:

a digital video modulator, for modulating packetized information streams onto a carrier;

said session manager determining said information distribution system bandwidth with respect to a bandwidth utilization level of said digital video modulator.

14. (withdrawn) The apparatus of claim 8, wherein a first level of bandwidth is allocated to each subscriber upon establishing a session, said first level of bandwidth being sufficient to support a navigation function.

15. (withdrawn) The apparatus of claim 8, wherein said requested information is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level.

U.S.S.N. 09/406,353

Page 5 of 5

16. (withdrawn) The apparatus of claim 8, wherein each program to be provided to requesting subscribers is stored at each of an appropriate encoded bitrate and a minimal encoded bitrate.

17. (currently amended) In a video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing VOD content to said subscriber equipment via a forward channel, said subscriber equipment requesting said VOD content via a back channel, a method comprising the steps of:

determining whether said VOD distribution system has sufficient bandwidth available to provide VOD content requested by a subscriber;

providing, in the event of appropriate bandwidth availability, said requested VOD content to said subscriber using stored content encoded in a manner adapted to utilize said appropriate bandwidth; and

providing, in the event of minimum bandwidth availability, said requested VOD content to said subscriber using stored content encoded in a manner adapted to utilize minimum bandwidth.

18. (previously presented) The method of claim 17, further comprising the step of: waiting, in the event of less than minimum bandwidth availability, for a predetermined period of time; and

repeating said first and second steps of providing said requested information.

19. (previously presented) The method of claim 18, further comprising the step of: repeating, for a predetermined number of iterations, said step of waiting and said first and second steps of providing said requested VOD content.

20. (previously presented) The method of claim 19, further comprising the step of denying, after said predetermined number of iterations, access to said requested VOD content to said subscriber.

U.S.S.N. 09/406,353

Page 6 of 6

21. (original) The method of claim 17, wherein said bandwidth determination is made with respect to at least one of a video server bandwidth, a video switch bandwidth a transport processor bandwidth and a digital video modulator bandwidth.

22. (original) The method of claim 17, wherein a first level of bandwidth is allocated to each subscriber upon establishing a respective session, said first level of bandwidth being sufficient to support a navigation function.

23. Canceled.

24. (presently presented) The method of claim 17, wherein said appropriate bandwidth level represents a bandwidth level sufficient to provide said requested information to said subscriber without qualitatively degrading said requested information, and said minimum bandwidth level represents a bandwidth level sufficient to provide said requested information to said subscriber where said requested information is qualitatively degraded.

25. (original) The method of claim 21, wherein the at least one of a video server bandwidth, a video switch bandwidth, a transport processor bandwidth and a digital video modulator bandwidth are modeled based upon expected component loading levels.

26. (previously presented) The method of claim 25, wherein said component loading levels are determined with respect to the type of VOD content requested.

27. (previously presented) The method of claim 26, wherein said VOD content type comprises one of a video, audio, audiovisual and data type.

28. (previously presented) The method of claim 27, wherein said VOD content types comprise video formats having differing quality levels.

U.S.S.N. 09/406,353
Page 7 of 7

29. (previously presented) The method of claim 26, wherein information requests from each of a plurality of requesting subscribers are used to provide VOD content type data for modeling the component loading levels, said subscriber requests for VOD content being aggregated to control bandwidth utilization levels such that information degradation is managed in an orderly fashion.

30. (currently amended) In an video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing VOD content to said subscriber equipment via a forward channel, said subscriber equipment requesting said information via a back channel, provider equipment apparatus comprising:

a session manager, for receiving VOD content requests from said subscriber equipment and determining, for each received request, whether said VOD distribution system has sufficient bandwidth available to provide the requested VOD content; and

an information server, coupled to said session manager, for providing said requested VOD content using stored content encoded in a manner adapted to utilize an appropriate bandwidth in the case of appropriate bandwidth availability, and for providing said requested VOD content using stored content encoded in a manner adapted to utilize a minimal bandwidth in the case of at least minimal bandwidth availability.

31. (previously presented) The apparatus of claim 30, wherein:

said session manager, in response to a determination that less than a minimum bandwidth is available, waiting for a predetermined period of time and determining, for each received VOD content request not being fulfilled, whether said VOD distribution system has sufficient bandwidth available to provide the requested VOD content.

32. (previously presented) The apparatus of claim 31, wherein:

said session manager, in response to a final determination that less than a minimum bandwidth is available, denying access to said VOD content to said requesting subscriber.

U.S.S.N. 09/406,353
Page 8 of 8

33. (previously presented) The apparatus of claim 30, further comprising:
a transport processor, for packetizing information provided by said information server;
said session manager determining said VOD distribution system bandwidth with respect to at least a bandwidth utilization level of said transport processor.
34. (previously presented) The apparatus of claim 30, further comprising:
a plurality of data storage devices, coupled to said information server via a video switch;
said session manager determining said VOD distribution system bandwidth with respect to at least one a bandwidth utilization level of said video switch and a bandwidth utilization level of a storage devices including said requested information.
35. (previously presented) The apparatus of claim 30, further comprising:
a digital video modulator, for modulating packetized information streams onto a carrier;
said session manager determining said VOD distribution system bandwidth with respect to a bandwidth utilization level of said digital video modulator.
36. (original) The apparatus of claim 30, wherein a first level of bandwidth is allocated to each subscriber upon establishing a session, said first level of bandwidth being sufficient to support a navigation function.
37. Canceled.
38. (previously presented) The apparatus of claim 30, wherein said appropriate bandwidth level represents a bandwidth level sufficient to provide said requested VOD content to said subscriber without qualitatively degrading said requested VOD content, and said minimum bandwidth level represents a bandwidth level sufficient to provide

U.S.S.N. 09/406,353
Page 9 of 9

said requested VOD content to said subscriber where said requested VOD content is qualitatively degraded.

39. (original) The apparatus of claim 30, wherein the at least one of a video server bandwidth, a video switch bandwidth, a transport processor bandwidth and a digital video modulator bandwidth are modeled based upon expected component loading levels.

40. (original) The apparatus of claim 39, wherein said component loading levels are determined with respect to the type of information requested.

41. (original) The apparatus of claim 40, wherein said information type comprises one of a video, audio, audiovisual and data type.

42. (original) The apparatus of claim 41, wherein said information types comprise video formats having differing quality levels.

43. (previously presented) The apparatus of claim 40, wherein information requests from each of a plurality of requesting subscribers are used to provide VOD content type data for modeling the component loading levels, said subscriber requests for VOD content being aggregated to control bandwidth utilization levels such that information degradation is managed in an orderly fashion.

44. (original) The apparatus of claim 30, wherein each program to be provided to requesting subscribers is stored at each of an appropriate encoded bitrate and a minimal encoded bitrate.